The City of West Palm Beach

"The Capital City of the Palm Beaches"

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December 12, 2013

Marlene H. Dortch
Secretary
Federal Communications Commission
445 12th Street, SW
Washington, DC 20554

RE: AT&T Request for Waiver to Permit Power Spectral Density Model for 800 MHz Cellular Operations in Three Florida Markets,
WT Docket No. 13-202

Dear Ms. Dortch:

The City of West Palm Beach has reviewed the above captioned Request for Waiver filed by AT&T and is concerned about the potential adverse impact on public safety radio systems. As such, we offer these comments and objections. There are a plethora of reasons to oppose this particular request because of the adverse effect it could have if granted. At the outset, consider the current methods that use effective radiated power (ERP) for power calculations, such as for Television and FM Radio Stations. Over the many years since the inception of these mediums, there have been proposals to reestablish a method to assure the correct operating power of these services. There have been numerous attempts for licensees to question antenna manufacturers for TV and FM stations based on perceived coverage. Some of the methods were similar to the proposed AT&T method and in every situation the FCC has denied, with sufficient qualifications, the acceptance of these types of power measurements.

No matter how many times it has been attempted, the only constant is the lack of a constant or a standard to which everything could be compared. ERP is repeatable. No matter how many times it is calculated, if the mathematics is correctly applied, the results will always be the same. With power density measurements, there are multiple additional variables that would alter the calculated level of power: from a poor connection of a single connector to any type of interference, density measuring device alignment/calibration, refraction, reflection, outside radio transmission, ghost image, cable impedance irregularities, incorrect transmitter power output, or impedance

imbalance caused by any object/person within proximity of the measuring device, but most of all human error. There are many other possibilities that would create challenges.

"Use of a PSD Alternative for Calculating Power in the Cellular Bands Will Not Increase Harmful Interference":

The petitioner makes this blanket statement without qualifications. The contrasting opinion is there will be a direct cause to adjacent channel interference, specifically to public safety radios. A change (increase) in power levels can and has caused front-end overload to many field radios. The current Public Safety radio units are chosen for convenient size and operability. With some level of a received power increase there will be a requirement for better adjacent channel filtering. With the addition of filtering, there are associated problems with receiver sensitivity and a necessary increase in physical size, as needed, to accommodate the more selective bandpass filters. It should be noted that Public Safety user radios must be able to receive on both the uplink and downlink band segments as used in the 700-800 MHz public safety band. Any changes to the current filter scheme would unnecessarily increase user radio complexity and cost. Further, these types of adjustments, if undertaken in the field and outside of an equipment manufacturer's environment could result in adverse operational and functional conditions in a life or death situation. Functionally, it is doubtful that any such selectivity enhancement changes as suggested by the petitioner could be made to currently fielded radio devices and that existing Public Safety portable and mobile radio equipment would have to be fully replaced. This unnecessary equipment replacement places an unacceptable financial burden on Public Safety agencies and the taxpayers they serve, particularly in light of the recent fiscal costs undertaken by many to fulfill FCC requirements for occupied bandwidth reductions in Public Safety spectrum allocated below 512MHz.

The Petitioner further states:

Still, it is important to note that (i) Public Safety systems rarely experience overload interference; (ii) in instances where it does occur, the commercial operator typically is not exceeding allowable power limits—rather, the Public Safety receivers typically are overloaded because of front end filters that were not designed to block signals on adjacent commercial frequencies; and (iii) most importantly, a use of a PSD methodology to express power in the cellular bands proposed by AT&T would not increase this interference risk--the received signal strength in Public Safety bands would not increase from the levels they experience today.

The City of West Palm Beach would like to emphasize that the petitioner is not denying historic interference to Public Safety radios from similar proposed services. There have been numerous occurrences in the past. Furthermore, the petitioner does not clearly state that its actual overall goal is to effect an increase in power level by using the subjective methodology in the Petition for Waiver. The petitioner must certainly recognize the cost burden (in excess of $3.2 billion) now being borne by Sprint-Nextel, as well as the vulnerability and disruption to existing Public Safety radio system reliability and functionality as a result of both cellular and cellular-like operations causing widespread and sporadic interference to public safety operations within the 800 MHz spectrum. Petitioner states that the received signal strength in Public Safety bands would not

increase, but does not fully address how it reached this conclusion. Public Safety radio operations are not confined merely to NPSPAC 800MHz allocation, but also exist within General Category allocations that are spectrally closer to current 800MHz cellular radio allocations. Without question the Public Radio receiver will likely need to reject more adjacent power or be subject to interference.

Furthermore, the petitioner's argument is only with respect to public safety portable and mobile radio devices. Public Safety 800MHz radio networks also utilize high-sites for the purpose of retransmission of low-powered portable radio devices throughout a wide service area. These high-sites utilize high gain, low noise figure tower top preamplifiers to balance talkin versus talkout radio network coverage. These tower top preamplifiers are susceptible to functional desensitization and self-development of intermodulation products as a result of excessively high detected signal from other, non-affiliated radio systems/services. No evidence has been provided that supports the petitioner's claim that harmful interference could not occur to these devices as a result of the changes desired by the petitioner.

No matter how the petitioner presents its proposal, it is clear they are attempting to find a method for better signal penetration, which translates to additional power in this situation. Increased power will affect other services, including Public Safety services. As such, the City objects to AT&T's Request for Waiver as currently proposed.

Sincerely,

Jeffrey L. Green
City Administrator